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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/27/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/549,133

Applicant(s)

SWAM ET AL.

Examiner

Ramnandan Singh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-11, 13-17, 19-22, 28, 31-37, 39, 41-44, 46 and 48-51 is/are rejected.
- 7) ☒ Claim(s) 4-8, 12, 18, 23-27, 30, 38, 40, 45 and 47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 10, 11, 12, 13.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings filed on 13 April 2000 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftsperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

Preliminary Amendments

2. Four preliminary amendments, each filed separately, dated 3/28/2001; 4/12/2001; 01/16/2002; and 02/17/2003 are approved.

3. Status of Claims

Claim 28 is twice-amended.

Claim 29 is cancelled.

Claims 1-28, 30-51 are pending.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 51 is rejected under 35 U.S.C. 102(e) as being anticipated by Guenther et al [US 6,438,226 B1].

Regarding claim 51, Guenther et al teach a telecommunication component (i.e. **splitter assembly**), as shown in Fig. 4, comprising:

a chassis (i.e. **housing**) wherein splitter assembly 10 has housing 12 [Figs. 1-4; col. 4, lines 50-58];

a plurality of interface cards 40 (i.e. **splitter cards**) secured to the chassis (i.e. **housing**) wherein each card 40 includes a circuit board (i.e. **a splitter circuit on a card**) [Abstract] with two edges 44a, 44b mounted in interior 14 [Figs. 1-3; col. 5, lines 39-54];

a first cable connector for inputting twisted pair, mixed data/voice signals (i.e. **line connector 74**) to the circuit board (i.e. **card**);

a second cable connector for outputting twisted-pair (i.e. **POTS connector 70**) , voice signals from the circuit board (i.e. **card**);

a third cable connector for outputting twisted pair, data signals (i.e. **data connector 72**) from the circuit board [col. 2, lines 32-39; col. 4, lines 50-66; col. 5, line 35 to col. 6, line 2; col. 7, lines 11-21; col. 9, lines 11-15];

one or more card edge connectors (i.e. **cards 103 have opposing edges 106 and 107 and circuit card (edge) connectors**) mounted adjacent to the end of the circuit board (i.e. **card**) [See Figs. 7-8] , [col. 7, lines 16-18; col. 9, lines 10-15] including POTS contacts 80, xDSL contacts 82, and line contacts 84 which may normally be open or closed contacts [Figs. 10-12; col. 8, line 29 to col. 9, line 15].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-3, 9-11, 13-14, 15-17, 19-22, 28, 31-37, 39, 41-44, 46, 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guenther et al [US 66,438,226 B1] in view of Lemke [US 4,824,383].

Regarding claim 1, Guenther et al teach a telecommunication component (i.e. **splitter assembly**), as shown in Fig. 4, comprising:

- a circuit board (i.e. **a splitter circuit on a card**) [Abstract];
- a first multi-pair cable connector for inputting twisted pair, mixed data/voice signals (i.e. **line connector 74**) to the circuit board (i.e. **card**);
- a second multi-pair cable connector for outputting twisted-pair (i.e. **voice connector 70**) , voice signals from the circuit board (i.e. **card**);
- a third multi-pair cable connector for outputting twisted pair, data signals (i.e. **data connector 72**) from the circuit board [col. 2, lines 32-39; col. 5, line 55 to col. 6, line 2; col. 9, lines 11-15];
- one or more card edge connectors (i.e. **cards 103 have opposing edges 106 and 107 and circuit card (edge) connectors**) [Figs. 7-8; col. 7, lines 16-18; col. 9, lines 10-15] including POTS contacts 80, xDSL contacts 82, and line contacts 84 which may normally be open or closed contacts [Figs. 10-12; col. 8, line 29 to col. 9, line 15].

Although Guenther et al teach that each card may retain two or more circuits with three pairs of contacts for each circuit [col. 7, lines 22-28], they do not disclose expressly any means employed therein for electrically isolating those three sets of

connectors. So one of ordinary skill in the art would have been motivated to seek any known means suitable to electrically maintain separation between any two of those connectors, such as the tracings employed by Lemke [US 4,824,383].

Lemke teaches a terminator and corresponding receptacle for multiple electrical conductors in an environment of an edge card, and a circuit board 86 having multiple conductive tracings 88 thereon, wherein providing the closed contacts and the open contacts is a matter of a design choice for the tracings design [Figs. 4, 5; col. 9, lines 39-62].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the multiple tracings of Lemke that electrically isolate individual or groups of contact elements in the connectors to prevent or minimize cross-talk between adjacent conductors [Lemke; col. 2, lines 22-52].

Claim 15 is essentially similar to claim 1 except for a chassis. Guenther et al further teach a chassis (i.e. **housing**) wherein splitter assembly 10 has housing 12 [Figs. 1-4; col. 4, lines 50-58].

Claim 28 is essentially similar to claim 1 except for a grouping of contacts. Guenther et al further teach that all the first contacts (i.e. **POTS contacts 84**) and the second contacts (i.e. **xDSL contacts 82**) are located at the first extension (i.e. **a pair of**

terminals), and all of the third contacts (i.e. **outside plant contacts 85**) are connected to a second extension (i.e. **outside plant line 75**) to carry a combined signal between a subscriber and a central office [Fig. 11; col. 8, lines 46-59].

Claim 31 is essentially similar to claim 1 except for some new terminologies introduced in this claim. The combination of Guenther et al and Lemke further teaches first conductive pathways (i.e. **first tracings**); second conductive pathways (i.e. **second tracings**); and third conductive pathways (i.e. **third tracings**).

Claims 33 , 35, 44 are essentially similar to claim 15 and are rejected for the reasons stated above.

Claim 37 is essentially similar to claim 15 except for a circuit board positioned at an orientation generally perpendicular to the back plane. Guenther et al further teach a circuit board (i.e. (i.e. **a splitter circuit on a card**) 103 positioned at an orientation perpendicular with respect to the back place (i.e. **rear face**) 22 wherein a front face 20 is perpendicular with respect to the rear face 22 [col. 6, lines 3-24; col. 7, lines 22-52].

Regarding claim 2, Lemke further teaches a splitter 78 having POTS contacts 80, data contacts 82 and line contacts 84 [col. 5, line 55 to col. 6, line 2; Abstract].

Claim 16 is essentially similar to claim 2 and is rejected for the reasons stated above.

Regarding claim 3, Lemke further teaches a splitter having POTS contacts 80.

Claim 17 is essentially similar to claim 3 and is rejected for the reasons stated above apropos of claim 3.

Regarding claim 9, Guenther et al further teach a circuit board (i.e. (i.e. **a splitter circuit on a card**) 103 positioned at an orientation perpendicular with respect to the back place (i.e. **rear face**) 22 wherein a front face 20 is perpendicular with respect to the rear face 22 [col. 6, lines 3-24; col. 7, lines 22-52].

Regarding claim 10, Guenther et al further teach a splitter card adapted for the one or more card edge connectors wherein cards 103 have opposing edges 106 and 107 [Figs. 7-8; col. 7, lines 11-21].

Claim 11 is essentially similar to claim 3 and is rejected for the reasons stated above apropos of claim 3.

Regarding claim 13, Guenther et al further teach a housing that includes opposite slots (i.e. **holes**) wherein the circuit board (i.e. **splitter card**) is mounted in the slots (i.e. **holes**) [Fig. 5, lines 35-54; Figs. 7-8; col. 7, lines 11-21].

Claim 19 is essentially similar to claim 13 and is rejected for the reasons stated above.

Regarding claim 14, Guenther et al further teach a splitter card adapted for the one or more card edge connectors wherein cards 103 have opposing edges 106 and 107 [Figs. 7-8; col. 7, lines 11-21].

Claim 20 is essentially similar to claim 14 and is rejected for the reasons stated above.

Regarding claim 21, Guenther et al further teach a plurality of the interface cards (i.e. **splitter cards**) mounted within the chassis (i.e. **housing**) [Abstract; col. 5, lines 35-54].

Claim 39 is essentially similar to claim 21 and is rejected for the reasons stated above.

Regarding claim 22, Guenther et al further teach the housing that can hold a single one of the interface card (i.e. **splitter card**) [Abstract; col. 2, lines 29-39].

Regarding claim 32, the combination of Guenther et al and Lemke further teaches conductive pathways wherein the none of the third conductive pathways (i.e. **plates**) on the circuit board (i.e. **card**) cross-over any of the first or second conductive pathways [Lemke; col. 3, lines 49-60].

Regarding claim 34, Guenther et al further teach that the first and second rows are horizontal rows (i.e. **maintaining horizontal distances between neighboring terminal blocks**) [col. 4, lines 40-51].

Claim 36 is essentially similar to claim 34 and is rejected for the reasons stated above.

Regarding claim 41, Guenther et al further teach a splitter card (i.e. **splitter assembly 10**) mounted in the chassis (i.e. **housing**) and electrically connected to the card edge connector of the interface card [Abstract; col. 5, lines 35-54; col. 7, lines 11-21].

Claims 43 essentially similar to claim 41 and is rejected for the reasons stated above apropos of claim 41.

Regarding claim 42, Guenther et al further teach that the splitter card and the interface card are generally co-planar (i.e. **maintaining uniform horizontal and vertical distances between neighboring terminal blocks**) [Figs. 6-9; col. 4, lines 40-51].

Claim 46 is essentially similar to claim 42 and is rejected for the reasons stated above.

Claims 48, 50 are essentially similar to claim 41 and are rejected for the reasons stated.

Claim 49 is essentially similar to claim 42 and is rejected for the reasons stated above.

Allowable Subject Matter

8. Claims 4-8, 12, 18, 23-27, 30, 38, 40, 45, 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Examiner's Statement of Reasons for Allowance:

This invention relates to a splitter architecture for a telecommunications system.

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Dependent claim 4 identifies the uniquely distinct feature of the splitter architecture comprising: the splitter card includes at least 24 of the POTS splitters. While the closest prior art, Guenther et al [US 6,438,226 B1], Staber et al [US 6,137,866], and Green et al [6,127,631] each teach splitter architectures, Guenther et al teach at least one splitter circuit, and Staber et al and Green et al do not teach any specific number of splitter circuits, none of them suggest that the splitter architecture include at least 24 of the POTS splitters. As such, the prior art, either singularly or in combination, fail to anticipate or render the above underlined limitation obvious. Hence, dependent claim 4 is objected.

Claims 12, 18, 40 and 47 are essentially similar to claim 4 and hence they are also objected to.

Dependent claim 5 identifies the uniquely distinct feature of the splitter architecture comprising: the one or more card edge connectors include a first card edge connector and a separate second card edge connector, the first card edge connector including the normally closed contacts and the second card connector including the normally open contacts. While the closest prior art, Guenther et al [US 6,438,226 B1], Staber et al [US 6,137,866], Green et al [6,127,631], and Lemke [US 4,824,383] each teach splitter architectures, Lemke discloses tracings, none of them suggest that the first card edge connector include the normally closed contacts, and the second card connector the normally open contacts for a splitter architecture. As such, the prior art,

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either singularly or in combination, fail to anticipate or render the above underlined limitation obvious. Hence, dependent claim 5 is objected.

Claims 6-8 are also objected to due to dependence on claim 5.

Claims 23, 38, 45 are essentially similar to claim 4 and hence they are also objected to.

Claims 24-27, 30 are also objected to due to dependence on claim 23.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Eigenbrode [US 4,552,420] discloses using tracings on a circuit board [Fig. 4].

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramnandan Singh
Examiner
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A handwritten signature in black ink, appearing to be 'RMS' or similar, written in a cursive style.